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09/653,196	08/31/2000	Charles R. Cash	8320.10	4698

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EXAMINER
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STEVENS, THOMAS H

ART UNIT	PAPER NUMBER
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2123

DATE MAILED: 06/04/2004

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Please find below and/or attached an Office communication concerning this application or proceeding.

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# Office Action Summary

Application No.

09/653,196

Applicant(s)

CASH ET AL

Examiner

Thomas H. Stevens

Art Unit

2123

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 02 April 2004.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1,3-18 and 20-32 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1,3-18 and 20-32 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 02 April 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

## Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

## Attachment(s)

- ☒ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_
- ☐ Notice of Informal Patent Application (PTO-152)
- ☐ Other: \_\_\_\_\_

**DETAILED ACTION**

1. Amended claims 1,3-18,20-32 are prosecuted. Section 1 covers response to applicants' amendments; section 2 covers objections; and section 3 is rejections.

**Section I Response to Applicants' Amendments**

***Response to Remarks-Status***

2. The examiner acknowledges the information regarding status (pg. 16).

***Response to Title of Invention***

3. The applicants are thanked for changing the invention title. Objection withdrawn (pg. 16).

***Response to Appendix A***

4. The applicants are thanked for addressing and changing Appendix A's length (pg. 20, section IV).

***Response to 35 U.S.C. § 112 2nd paragraph***

5. The applicants are thanked for addressing 112 2<sup>nd</sup> paragraph issue. The examiner acknowledges the change of claim 1, in which the steps of the method claim are now properly disclosed. However, the examiner is aware of the requirement of

method claims disclosing steps. Nonetheless, the rejection for this claim is withdrawn (pg. 17-18, lines 16-26 and 1-3, respectively).

The examiner withdraws the all-112 2<sup>nd</sup> statements (pg. 18-19, lines 12-20 and 1-22).

### ***Response to Claim Interpretation***

6. The examiner acknowledges the applicants' response to examiner's claim interpretation (pg. 22, lines 1-10).

### ***Response to Drawings***

7. The examiner acknowledges applicants' changes. Objection is withdrawn (pg. 15).

### ***Response to IDS***

8. The examiner acknowledges applicants' change of reference from 60/151,629 to 09/653,195 (pg. 2, B2); however, the listing of references in the specification is not a proper information disclosure statement. 37 CFR 1.98(b) requires a list of all patents, publications, or other information submitted for consideration by the Office, and MPEP § 609 A(1) states, "the list may not be incorporated into the specification but must be submitted in a separate paper." Therefore, unless the references have been cited by the examiner on form PTO-892, they have not been considered.

***Response to Specification Changes***

9. The examiner acknowledges and approves applicants' changes to the specification with regard to drawing typos (original specification pages: pg. 20, paragraph 2; pg. 26, 1<sup>st</sup> paragraph; pg. 30, lines 19-23; pg. 35, lines 8-12). However, examiner objects to applicants' injection of new matter into the application (see section II, Objections).

***Response to 35 U.S.C. § 101 Rejection***

10. Applicants are thanked for changing claims in response to 35 U.S.C. 101 rejection. Rejection is withdrawn (pg. 20).

***Response to 35 U.S.C. § 102 Rejection***

11. Applicants are thanked for responding to 35 U.S.C. 102 rejection by amending claims. Rejection is withdrawn.

**Section II Objections**

12. The amendment filed on April 4, 2004 is objected to under 35 U.S.C. 132 because it introduces new matter into the disclosure. 35 U.S.C. 132 states that no amendment shall introduce new matter into the disclosure of the invention. The added material, which is not supported by the original disclosure, is as follows (the enclosed alpha/numeric number represents sections of information from applicants' amendments to the original specification):

- (pg.3, line 2) “Run Simulation” **is now** “Rub Simulation”.
- (pg. 4, lines 2-4) “There are only three parameters in this category for each model” **now reads** “The remaining category is the Model Parameters category.  
There are only three parameters in this category for each model”.
- (pg. 6, lines 1-2) “The Run Simulation button will start running the model and scenario selected in the Models and Scenarios tables of this form “. **The sentence now states**, “The Run Simulation button 1580 will start running the model and scenario selected in the Models 1510 and Scenarios 1530 tables of this form”
- (pg. 6, line 8) No mention of figures 27-32 in the amended specification. Also, the notation of feature of “model FEM1” was added.
- (pg. 7, line 3) The addition of the “five rectangles at the top of Figure 30...” was not mentioned in the original specification.

### **Section III Rejections**

#### ***Claim Rejections - 35 USC § 103***

13. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

14. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

15. Claims 1,3-18,20-32 are rejected under 35 U.S.C. 103 (a) as unpatentable by Madigan-E et al. ("Simulation Success Stories: Business Process Reengineering" (1997)), in view of Human Factors Engineering ("Land and Front-End Effectiveness Model" (1999)).

Madigan-E et al. teaches business methods of how simulation aids in improving process (abstract); in particular the realm of retail; but doesn't teach how to pursue it.

Human Factors Engineering teaches a retail-based simulation model encompassing the daily activities of retail consumers with a flexible data drive model that evaluates the performance of the front-end operations at a retail store (figure 20, lines 1-2).

At the time the invention was made, it would have been obvious to one of ordinary skill in the art to use Human Factors Engineering (HFE) to modify Madigan-E et

al. since it would advantageous to implement a simulation in order to eradicate correctable retail anomalies.

Claim 1. A method of quantitatively evaluating alternatives to check-out operations (Madigan: pg. 1276, section 3.1, 1<sup>st</sup> paragraph) using simulation model (Madigan: pg. 1276, section 3.1, 1<sup>st</sup> paragraph), comprising: selecting from a data input dictionary parameters describing a first check-out operations; inputting parameter values for the selected parameters describing the first checkout operations into the simulation model; model transforming the first check-out operation parameters into check-out performance results; and outputting the results from the simulation model (HFE: figure 4; and Madigan: pg. 1277, left column, 1<sup>st</sup> paragraph, lines 3-4).

Claim 3. The method of claim 1 (HFE: figure 4; and Madigan: pg. 1277, left column, 1<sup>st</sup> paragraph, lines 3-4), wherein the first checkout operations includes one of a transaction process at two front facing check stands, a transaction process at two back-to-back check stands and a transaction process at two front facing check stands for fast-track customers (HFE: figure 8, (865) and (850), parameter and description columns, respectively).

Claim 4. The method of claim 1, (HFE: figure 4; and Madigan: pg. 1277, left column, 1<sup>st</sup> paragraph, lines 3-4) wherein the first check-out operations include check stand designs, transaction procedures and lane configurations.



Claim 5. The method of claim 1, (HFE: figure 4; and Madigan: pg. 1277, left column, 1<sup>st</sup> paragraph, lines 3-4) wherein the transforming step is performed in either an unlimited arrival mode or a limited arrival mode (HFE: figure 10 and Madigan: pg. 1277, section 3.3, 1<sup>st</sup> paragraph, lines 13-14).

Claim 6. The method of claim 1, (HFE: figure 10 and Madigan: pg. 1277, section 3.3, 1<sup>st</sup> paragraph, lines 13-14) wherein the simulation model simulates two lane models using check-out operations parameters describing the following events: pre-itemization, itemization, finalization, bagging and intervention (Madigan: pg. 1277, left column, section 3.1 Model Validation).

Claim 7. The method of claim 1, (HFE: figure 10 and Madigan: pg. 1277, section 3.3, 1<sup>st</sup> paragraph, lines 13-14) wherein the first checkout operations represents represent front-end operations of a check-out process (HFE: figure 14, parameter column, row 3).

Claim 8. The method of claim 7, (HFE: figure 10 and Madigan: pg. 1277, section 3.3, 1<sup>st</sup> paragraph, lines 13-14) wherein the front-end operations has labor including cashiers, baggers, super-helpers (Madigan: figure 12 and HFE: pg. 1276, section 3.1, lines 1-13) and overflow resources.

Claim 9. The method of claim 1, (HFE: figure 10 and Madigan: pg. 1277, section 3.3, 1<sup>st</sup> paragraph, lines 13-14) wherein the first check-out operations parameters a configuration category, a customer demand category, a schedule category, a

transaction category, a transaction itemization category, a transaction finalization category, a transaction bagging category, a transaction intervention category, and a model parameters category (Madigan: figure 8, Parameter Categories Section (820)).

Claim 10. The method of claim 9 (HFE: figure 10. Madigan: pg. 1277, section 3.3, 1<sup>st</sup> paragraph, lines 13-14; and figure 8, Parameter Categories Section (820)), wherein the configuration category includes parameters defining the length of and resources in a scenario (Madigan: figure 9, description column, and first row).

Claim 11. The method of claim 10 (HFE: figure 10. Madigan: pg. 1277, section 3.3, 1<sup>st</sup> paragraph, lines 13-14; and figure 8, Parameter Categories Section (820)), wherein the resources include a number and type of check-stands and belt size (HFE: figure 6, Scenario Description (630)).

Claim 12. The method of claim 9 (HFE: figure 10. Madigan: pg. 1277, section 3.3, 1<sup>st</sup> paragraph, lines 13-14; and figure 8, Parameter Categories Section (820)), wherein the customer demand category (HFE: figure 8, Customer Demand (832)) has parameters that control the workload on a front-end or lane

Claim 13. The method of claim 12 (HFE: figure 10. Madigan: pg. 1277, section 3.3, 1<sup>st</sup> paragraph, lines 13-14; and figure 8, Parameter Categories Section (820)), wherein the

parameters that control the workload include a number of customer arrivals and customer basket (figure 10 and 11, titles).

Claim 14. The method of claim 9 (HFE: figure 10 and Madigan: pg. 1277, section 3.3, 1<sup>st</sup> paragraph, lines 13-14. Madigan: figure 8, Parameter Categories Section (820)), wherein the schedules category includes schedules for cashier, bagger and super-helper in 30-minute intervals during a scenario (HFE: figure 12, titles).

Claim 15. The method of claim 9 (HFE: figure 10 and Madigan: pg. 1277, section 3.3, 1<sup>st</sup> paragraph, lines 13-14. Madigan: figure 8, Parameter Categories Section (820)), wherein the transaction itemization parameters (HFE: figure 8, Parameter Categories (822)) are scalar values.

Claim 16. The method of claim 15(HFE: figure 10 and Madigan: pg. 1277, section 3.3, 1<sup>st</sup> paragraph, lines 13-14. Madigan: figure 8, Parameter Categories Section (820)), wherein the scalar parameters are a mean and a standard event time distribution of an event time distribution (Madigan: pg. 1277, section 3.2).

Claim 17. The method of claim 9(HFE: figure 10 and Madigan: pg. 1277, section 3.3, 1<sup>st</sup> paragraph, lines 13-14. Madigan: figure 8, Parameter Categories Section (820)), wherein the transaction-bagging category (HFE: figure 8, Parameter Categories (826))

includes parameters which govern how long it takes to bag items and which resources are available for bagging.

Claim 18. The method of claim 9 (HFE: figure 10 and Madigan: pg. 1277, section 3.3, 1<sup>st</sup> paragraph, lines 13-14. Madigan: figure 8, Parameter Categories Section (820)), wherein the model parameters include a number of replications, a stream number identifier and check input option identifier (HFE: figure 8, Scenario name).

Claim 20. The method of claim 1(HFE: figure 10 and Madigan: pg. 1277, section 3.3, 1<sup>st</sup> paragraph, lines 13-14), wherein the data input dictionary comprises at least one allowable range of parameter values, and wherein the inputting step comprises inputting a parameter value within the allowed range (HFE: figure 8, range column).

Claim 21. The method of claim 1(HFE: figure 10 and Madigan: pg. 1277, section 3.3, 1<sup>st</sup> paragraph, lines 13-14), comprising one of outputting a report and displaying an animation of the results of the simulation (HFE: figure 18, Title: "Number of Open Lanes").

Claim 22. The method of claim 1(HFE: figure 10 and Madigan: pg. 1277, section 3.3, 1<sup>st</sup> paragraph, lines 13-14), further comprising: repeating selecting from a data input dictionary parameters describing a second check-out operations; inputting parameter values for the selected parameters describing the second check-out operations into the simulation model; transforming the second check out operations parameters into alternative check-

out performance results; and outputting the alternative results from the simulation model (HFE: figure 25, Performance Stats—Store Checkout).

Claim 23. The method of claim 1 (HFE: figure 10 and Madigan: pg. 1277, section 3.3, 1<sup>st</sup> paragraph, lines 13-14), wherein the first check-out operations comprise a plurality of resource types, and wherein the results of said outputting step includes performance measures for each type of resource (HFE: figure 25, Performance Stats—Store Checkout).

Claim 24. The method of claim 23 (HFE: figure 10 and Madigan: pg. 1277, section 3.3, 1<sup>st</sup> paragraph, lines 13-14), wherein the first check-out operations comprise a front-end model and wherein the output results include one of: all measures; baggers; cashiers; regular lanes; fast-track lanes; self-service lanes, self service convertible to cashier operated lanes, overall front-end; super-helpers; and express lanes (HFE: figure 25, Performance Stats—Store Checkout).

Claim 25. The method of claim 23 (HFE: figure 10 and Madigan: pg. 1277, section 3.3, 1<sup>st</sup> paragraph, lines 13-14), wherein the first check-out operations comprise a two lane model and wherein the output results include one of: all measures; customer; cashier; lane; and bagger (HFE: figure 25, Performance Stats—Store Checkout).

Claim 26. The method of claim 23 (HFE: figure 10 and Madigan: pg. 1277, section 3.3, 1<sup>st</sup> paragraph, lines 13-14), wherein the performance measures include an average,

standard error, a minimum and a maximum value for each performance measurement measure (HFE: figure 25, Performance Stats—Store Checkout).

Claim 27. A method of predicting, with a simulation model programmed to accept parameters within a predetermined range, performance characteristics of a prospective check-out system for use in planning and designing a check-out system comprising (Madigan: pg. 1276-1277, sections 3.1 and 3.2): selecting a check-out configuration; determining parameters within the predetermined range that describe the check out configuration; inputting the parameters describing the checkout configuration into the simulation model; demand; model; determining parameters within the predetermined range that describe customer inputting the parameters describing the customer demand into the simulation transforming the customer demand parameters and the check-out configuration parameters into checkout configuration performance; and outputting information regarding the checkout configuration performance from the simulation model (HFE: figure 20, Model Description).

Claim 28. The method of claim 27 (Madigan: pg. 1276-1277, sections 3.1 and 3.2. HFE: figure 20, Model Description), wherein the check-out configuration comprises a plurality of check stands, and wherein the step of determining parameters describing the checkout configuration comprises the step of: determining for each of the plurality of check stands, at least one parameter that describes the check stand, and wherein the step of inputting the parameters describing the checkout configuration into the simulation model comprises the step of (HFE: figure 7, Input Module) inputting the at

least one parameter that describes the check stand for each of the plurality of check stands, and wherein the step of transforming comprises the step of: transforming the customer demand parameters and the check-out configuration parameters into check stand performance for each of the plurality of check stands, and wherein the step of outputting information comprises the step of: outputting information regarding the checkout configuration performance for each of the plurality of check stands, such that a comparison of the relative performance of each of the plurality of check stands is facilitated (HFE: figure 24, Output Module) .

Claim 29. The method of claim 28(Madigan: pg. 1276-1277, sections 3.1 and 3.2. HFE: figure 20, Model Description, figures 7, 24), wherein each of the plurality of check stands comprises a check stand of a different type, and wherein the step of outputting information comprises the step of: outputting information regarding the checkout configuration performance for each type of the plurality of check stands, such that a comparison of the relative performance of each type of the plurality of check stands is facilitated (HFE: figure 24, Output Module, (block 2430, 2432,2434,2436,2438)).

Claim 30. The method of claim 27(Madigan: pg. 1276-1277, sections 3.1 and 3.2. HFE: figure 20, Model Description, figures 7, 24), wherein the check-out configuration comprises a plurality of labor types (HFE: figure 12, Schedules), and wherein the step of determining parameters describing the checkout configuration comprises the step of: determining for each of the plurality of labor types, at least one parameter that describes

the labor type, and wherein the step of inputting the parameters describing the checkout configuration into the simulation model comprises the step of: inputting the at least one parameter that describes the labor type for each of the plurality of labor types, and wherein the step of transforming comprises the step of: transforming the customer demand parameters and the check-out configuration parameters into labor type performance for each of the plurality of labor types, and wherein the step of outputting information comprises the step of: outputting information regarding the checkout configuration performance(HFE: figure 25, Performance Stats—Store Checkout).  
for each of the plurality of labor types, such that a comparison of the relative performance of each of the plurality of labor types is facilitated.

Claim 31. The method of claim 30(Madigan: pg. 1276-1277, sections 3.1 and 3.2. HFE: figure 20, Model Description, figures 7, 24), wherein the plurality of labor types comprise cashiers, baggers and super-helpers, and wherein the step of outputting information comprises the step of: outputting information regarding the checkout configuration performance for cashiers, baggers and super-helpers, such that a comparison of the relative performance of the cashiers, baggers and super-helpers is facilitated (HFE: figure 25, Performance Statistics for Front End Model 1).

Claim 32. A system for predicting performance characteristics of a prospective check-out system for use in planning and designing a check-out system comprising; a computer(Madigan: pg. 1276-1277, sections 3.1 and 3.2. HFE: figure 20, Model



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Description, figures 4, 7, 24), having a microprocessor; an input device operatively connected to the microprocessor; and a display device properly connected to the microprocessor, wherein the microprocessor is programmed to; receive parameters from the input describing the checkout configuration; receive parameters from the input describing customer demand.

14. Applicant's amendment necessitated the new grounds of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

#### ***Correspondence Information***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tom Stevens whose telephone number is (703) 305-


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0365, Monday-Friday (8:30 am- 5:30 pm) or contact Supervisor Mr. Kevin Teska at (703) 305-9704. The fax number for the group is 703-872-9306.

Any inquires of general nature or relating to the status of this application should be directed to the Group receptionist whose phone number is (703) 305-3900.

May 17, 2004

  
Workman  
for 2123  
Randy Spencer

THS